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CONTRIBUTIONS TO THE PHYSIOLOGY AND PATHOLOGY OF THE NERVOUS SYSTEM OF THE EYE.—NO. 1.

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THE nervous system of the eye may be compared to an electro-magnetic telegraph. If the current along the wires of the telegraph be unproportionately powerful, the pen will be too firmly pressed on the register, and the operation of the instrument will be impeded. If it be not powerful enough, the pen will not be sufficiently attracted to make the requisite impression. If there be any derangement of the machinery at either end of the conductor, or if the chain of communication be interrupted, the instrument will lose its value.

The telegraph would likewise be out of order if the pen, or the material on which impressions are made, were not at proper distances from each other; and suitable provisions adapted, by which they can be adjusted, by springs or some other method, to keep every part in its proper place.

The eye may be affected in a manner somewhat similar to the telegraph. When there is undue or insufficient supply of the nervous current; when there is derangement of the retina, or the brain; or when the channel of communication is interrupted; the functions of the organ cannot be properly performed.

The functions of the eye would be incomplete without the means of regulating the telegraphic communications. As the objects whose existence it announces are not all at one distance, the image of an object nearer than one which is seen distinctly would not reach the retina, and the image of a body beyond one which is distinctly represented would pass behind it, if the organ were not furnished with means to vary the refracting media, according to the distance at which the visible object is placed. As the image forming objects cannot always be moved in order to be placed before the retina, the eye is necessarily provided with instruments of motion, by which it can be placed in an advantageous direction.

To preserve the organ in existence, it is supplied with nerves of nutrition; and to protect it from harm, it is furnished with nerves of

feeling. We shall examine some of these nerves in a state of health, before proceeding to the causes by which their functions are disturbed.

Retina.—The easiest method of acquiring a knowledge of the structure of the retina, is to examine it in the eye of a fish which has been macerated for a day or two in alcohol. When the hemisphere containing the cornea is cut away, and the lens and vitreous humor removed, we observe in the cup-like cavity of the hemisphere attached to the brain—

1. A very delicate membrane, the analogue of what is called the vascular membrane in the mammalia; but I cannot say that its vessels have been demonstrated, and the membrane itself is only sometimes seen.

2. Without any artificial separation, we see a number of fibres radiating from the entrance of the optic nerve and distributed over the entire cavity, with the exception of the lower portion, where there is a fissure to permit attachments of some of the membranes of the vitreous humor to the choroid.

3. Beneath the fibres there is a layer of granules, which may be also removed to exhibit another granular layer or analogue of the coat of Jacob. In proportion to what exists in the retina of the mammalia, the quantity of nervous matter is very large, and there is no communication by vessels with the adjoining coats except at the entrance of the optic nerve. The fibres, along which some minute vessels might run from the entrance of the optic nerve, are only applied to the granular layer in which there is no appearance of any vessel. As the vascular membrane is so delicate that it can scarcely be demonstrated, and the vessels which seem in some places to mix with the fibres are insignificant, it becomes a question how such a mass of medullary matter is nourished. The nutrition of the retina can be accounted for in no other way than by endosmosis from the choroid, which in fishes is furnished with a peculiar gland, which is highly vascular and easily separable into two portions. The portion next the brain can be readily injected, but I have never succeeded in forcing the injection into the other portion from which the choroid vessels proceed. It appears from this arrangement that some portions only of the blood are taken up by the anterior portion of the gland, and that the blood is thus prepared for the necessary structures. A portion of its carbon and iron assist in furnishing the pigmentum nigrum, and the phosphorus and albumen enter largely into the composition of the nervous matter. The peculiar animal matter which forms the crystalline lens may have also been previously prepared by the same apparatus.

The laminæ of the retina may be easily demonstrated in the eye of an ox, by preparing it in a similar manner and filling the cup-like cavity, first with a watery solution of corrosive sublimate, and in a minute or two afterwards with diluted alcohol. The vascular membrane may be lifted with forceps, and the fibres may, by a camel's-hair pencil, or piece of pointed wood, be separated from each other in bundles, or removed to show the granular layer beneath them. If the eye be opened under alcohol, provided it has not been macerated too long, the coat of Jacob may be seen as a double serous membrane, one portion floating on the

outer surface of the retina, and the reflected portion floating on the choroid. The coat of Jacob may be more extensively seen by exposing the convex surface of the retina of a perfectly fresh eye under water, and folding it over with the handle of a scalpel, or a hair pencil. When the same preparation is allowed to putrefy, and the nervous matter is washed away, the vascular coat may be lifted on a plate of glass and demonstrated.

By similar management these four laminæ may be readily demonstrated in the human retina, which will now occupy our attention.

The filaments of the nerve of vision are, in the normal condition, transparent, but they become opaque soon after the extinction of life. Some of them commence at a yellow-margined opening in the centre of the retina; and of these, the filaments nearest the optic nerve proceed towards the perforation in the tunics, in nearly straight lines, whereas the more distant sweep around the more central like notes of interrogation facing each other and placed horizontally. Those which do not commence at the foramen of Sœmmering proceed as nearly as possible in straight lines from their origin at the margin of the ciliary body, and from every point of the cavity, to form the optic nerve. The fibrous lamina is consequently much thicker at the inner posterior portion than it is at the circumference or at the centre. The origin of the fibres from so many points is deduced from subjective appearances rather than from direct examination, although it is asserted by microscopic observers that each fibre terminates in a papilla which bends towards the vitreous humor. When we place the retina of an animal, recently killed, in the field of a microscope with the concave surface upwards, we observe a granulated appearance from the corrugation of the membrane, which may be even seen to contract, but these elevations do not seem to be papillæ, and they cannot be demonstrated by other preparations of the retina.

Exterior to the fibrous lamina, but not anatomically connected with it, there is a layer of prisms and granules resembling mosaic work. This mosaic adheres to, or is arranged upon, the coat of Jacob, which, owing to this circumstance, exhibits a granular appearance when viewed through a microscope.

After the announcement of the discovery of the daguerreotype, it was suggested that the retina might be in a similar manner chemically affected by light, and that the heat generated by the exudation of the phosphorus of the nervous matter being communicated to the brain, might occasion vision.* If we substitute electricity for heat, this is the most plausible theory of vision that has been offered, and more easily comprehended than the one assuming billions of vibrations of imaginary villi in a

* "It belongs to physics and chemistry to commence where the anatomist ends. He describes the parts, they tell the use. They show how the images of external objects form, on optical principles, on the dark pigment, and how, under this influence, the nerve globules of the retina are oxidized by the arterial blood, which, through thousands of vessels, finds its way all over the choroid coat. How, whenever this oxidation goes on, the temperature rises, and the optic nerve transmits the impression to the brain; and we thus discover, that though in a certain sense the action of that nerve is special, yet in reality it is like that of any other sensory nerve, which, in like manner, transmits the impresssions of heat."—*Dr. Draper's Introductory Lecture on Phosphorus.*

second of time. We might even admit the transmission by heat, as all the imponderables seem to be modifications of the same agent; thus heat produces electricity, and electricity produces light and magnetism; and magnetism produces electricity, which produces heat and light. Time may unfold the causes of these modifications in behavior, yet as matters are now understood, electricity seems the better hypothesis. Hydrogen and chlorine may be kept mixed in the dark; but let a ray of light or any electric spark pass through the mixture, and the elements become chemically united. Light and electricity produce composition or decomposition in a variety of other bodies, organic as well as inorganic, the effects of which are conspicuous in the chloride and iodide of silver in phosphorus, and in the coloring matter of vegetables.

The time which light requires to travel from the sun to the earth, as calculated from the eclipses of the satellites of Jupiter, corresponds precisely with the rate of progress of electricity, as ascertained by the ingenious instrument of Professor Wheatstone. We cannot explain the cause of the light of the sun, yet the common source of artificial light is the change of state which bodies undergo by combustion. As a drop of water cannot become ice or vapor without disturbing the electric equilibrium, and as the combination of one of the constituents of water with other bodies is the usual source of the evolution of galvanism, the intense chemical action or change of state effected by combustion is doubtless followed by similar evolutions. Flame consists of a series of explosions occurring at certain intervals; the solar light consists of waves following each other at intervals which vary with the angle at which they are refracted or reflected, and in this manner form all the varieties of color, which is not owing to a quality of the colored body, but to a property of altering the lengths of the waves of light.

A true picture, then, is represented on the granular lamina of the retina by undulations of light of varied duration and intensity. The consequent chemical action is followed by evolutions of electricity, and these passing, not by vibrations, but quietly along the fibres to the brain, the perception of exterior objects is accomplished.

The microscope furnishes an interesting field for many of the subjective phenomena of vision. We sometimes observe a fibre resembling a worm, with a luminous mouth, moving to feel the picture as if endowed with a separate vitality. Some of the fibres, as if paralyzed and contracted upon themselves like intestines, appear either nearly stationary or moving at different perspective distances, and laboring with efforts to expand themselves. We observe, also, granules of different sizes; some of which may be regarded as the terminations of the fibres, and others as granules.

The nervous structure described is contained between two delicate membranes, the innermost of which is highly vascular and lines the whole cavity of the retina. Its vessels are derived from an artery which enters the globe through the centre of the optic nerve, and divides into several branches which ramify towards the ciliary body. Two of the branches form a circle round the central foramen, the one

passing above and the other below it, but no large vessel crosses or approaches very near the centre. The veins lie on the inner surface of the membrane, and accompany the arteries in their course; they form together a network, the meshes of which resemble the minute ramifications of the fibres of a leaf. Between the meshes the membrane is thin and transparent, and although on account of its vascularity the term has been objected to, it appears to perform the functions of a serous membrane, resembling, vascularity being excepted, the scrotal portion of the tunica vaginalis; the opposing serous surface being the hyaloid membrane.

The anastamosis of the vessels at the anterior portion of the vascular membrane with those covering the ciliary lamina, may have favored the opinion, which some have expressed, that the retina extends to the capsule of the crystalline lens. If an eye be allowed to putrefy, and the vessels extending from this membrane can be separated from the ciliary lamina, it is no proof that the medullary matter extends beyond the circumference of the ciliary body, for nervous matter is the first to undergo decomposition. After putrefaction, the nervous structure would not hold together to admit of separation. The fine plate which Arnold has given, representing the ciliary portion of the retina of an adult, and which has been often copied, is evidently imaginary, as the ciliary processes are those of the carnivora and not of man. When the eye is perfectly fresh, the ciliary processes adhere so firmly to the ciliary lamina, that they can only be separated by rupture; and when the separation is made under water, the ruptured remnants may be seen floating in the liquid. In Swan's beautiful plates of the nerves, there is a figure of the retina proceeding to the capsule of the crystalline lens; but the description betrays the secret of its manufacture, as it was "*taken from an eye that had been for some time immersed in alcohol before the sclerotic and choroid coats were removed.*" When an eye is allowed to remain in alcohol, the retina adheres so firmly to the choroid that it must be removed along with the latter membrane; so that we have only a representation of the coagulated membranes of the vitreous humor, and the retina is not represented at all.

The convex surface of the retina is covered by a delicate serous membrane, which is reflected over the choroid as before stated. The nervous matter is thus contained between two serous sacs extending from the ciliary body to the artery of the vitreous humor on one side, and from the ciliary body to the entrance of the optic nerve on the other. Free motion is thus given to the retina in its whole extent, without hindrance from adhesions, penetration of vessels or any other cause.

The yellow margin surrounding the spot at the centre of the retina is not observed till the fourteenth or sixteenth month after birth. This is not surprising, as the coloring granules of the iris require in most animals time for their development, yet the opening appears at an early period of fœtal life. The color is not observed in old people, and when vision is obstructed by opacities of the cornea or cataract, it is weakly marked or altogether wanting.

Owing to the diminution of the humors after death, the thin portion of the retina projects and forms a fold, so that it is difficult to examine this central structure; but if the retina is exposed on the humors, and the preparation allowed to macerate in water till the projecting plaits are unfolded, we may observe a foramen, if not through and through, at least through the nervous matter.

The opinion advanced by the celebrated Blumenbach, that the central portion of the retina expands and contracts like the iris, is very probable. We are accustomed to consider muscular fibres as essential to animal motion, but they cannot be discovered in the brain, which in the opinion of eminent physiologists possesses a motion of its own, which is facilitated by its serous surfaces. In the daughter of a friend of mine, who recovered from a fracture and removal of a large portion of the parietal bone, a vermicular action of the brain could be felt when particular organs were excited. Nothing like muscular structure has ever been discovered in the iris, which moves solely by nervous elongations and contractions. The inner fringed margin or annulus minor, which is the principal seat of motion, and the distorted pupil when some of the nerves are paralyzed, are incompatible with the idea of an orbicular muscle.

It was first noticed by Serres, that if we take hold of one of the ciliary nerves lying between the sclerotica and choroid, and clip it off, the nerve immediately contracts to one twentieth of its length, and if we plunge it into water it is again elongated. He supports his theory that the motions of the iris are affected in this manner, by the fact, that those animals in which the iris is immovable, as the frog, have no ciliary nerve.

By the foregoing remarks we have endeavored to show—1, that the retina is endowed with the power of motion; 2, that its adjustment is facilitated by the central foramen; 3, that on the granular coat there is formed a true picture, which is felt by the fibres, and that by the undulations of electricity, evolved by chemical action and transmitted along the optic nerve to the brain, vision is accomplished.

SOME ACCOUNT OF A DISEASE PREVALENT IN MICHIGAN THE PAST WINTER.

[Communicated for the Boston Medical and Surgical Journal.]

Several paragraphs have appeared in the newspapers, announcing the existence of a severe epidemic in various parts of this State; but as yet, to my knowledge, there has been no detailed account of its history in any of the Medical Journals. A brief narrative of its phenomena, and the treatment found most successful in its management, may not be uninteresting to the numerous readers of this Journal.

During the last summer and autumn, practitioners had very generally remarked that our endemic fevers were much more intractable than had been the case for several years previous; patients were apt to fall into a

typhoid condition, from which they were with difficulty recovered. Coma and delirium were oftener present. Even simple agues were noticed as much more indifferent to the power of quinine.

The weather has been extremely variable—scarcely a week has passed without a change from one extreme to the other. A thunderstorm has been succeeded by driving snow within twenty-four hours.

It was soon after one of these sudden changes that the first case occurred, so far as I can learn, in this vicinity. This was December 4th, 1847. From that time to the present, new cases have supervened only on the change from mild weather to cold.

Premonitory symptoms, if any, are rare. Occasionally a severe pain is complained of in some part of the body—the thorax, the arm, the hip, the occiput, or indeed any other region. Ordinarily, however, the attack is ushered in by a severe and protracted chill, at the onset perhaps appearing like simple ague, but soon becoming more and more intense, until the patient falls into a condition analogous to the severer forms of "congestive fever," with cold extremities; pulse small and feeble, or entirely absent at the wrist; profoundly comatose. The respiration extremely laborious and accelerated, hissing through the clenched teeth. The surface is generally during this stage covered with *petechiæ*, very large, livid and dark. There is also remarkable *soreness* of the surface. Although the pupil is insensible to light, and the ear to sound, yet the slightest touch or motion will elicit agonizing cries or groans. The tongue is either clean, or exhibits a thin mottled-white coat. The bowels are constipated. The urine is thickened in most cases by tenacious, ropy mucus, the sediment is at times lateritious, but ordinarily white, or slightly tinged with yellow.

The cold stage varies in duration from three to twenty-four hours. Death ensues, often, in a very few hours from the commencement of the attack. On the subsidence of the chill, there is generally considerable of a remission. Respiration continues accelerated, but the pulse is full and apparently natural, the surface is moist and warm, and the spots in a great measure disappear. The countenance is free from anxiety, and the patient converses confidently of approaching recovery. Some have even insisted upon resuming their customary avocations. The remission rarely exceeds four or six hours; then comes on the febrile stage.

In this stage the soreness is aggravated, the temperature much above the standard of health; the pulse becomes rapid, small and wiry, though in some instances it is full and hard, and in others the blood seems to be "jerked" under the finger in balls. The respiration is rapid, laborious—the physical signs revealing congestion in various portions of the lungs. The countenance is anxious. The head is thrown back, in some cases, to its utmost tether, as if in fear of suffocation. The eyes are distorted, and hearing is temporarily lost. The most fearful delirium soon supervenes. I have seen a delicate girl, 10 years of age, require the strength of three adult persons to confine her to the bed. The delirium is manifested more by jactitation than by voice, though speech is incoherent, and at

times noisy. This is a very prominent symptom, and generally continues, with some intermission, till late in the disease. It is most constant and violent in the night. The tongue is not constant in its changes, at this time; mostly, however, it gradually gets more coated, drier and darker, to black, or the coat comes off and leaves it intensely red, dry, glazed and fissured.

Erysipelas in most cases shows itself in some locality, at this period, generally on the face or around a blistered surface, or old sore. The throat is apt to become affected and ulcerate, with a most profuse and offensive discharge. Most intense local pain, without regularity in its site, is a common symptom. In a few instances, there has been paralysis. The bowels occasionally get tender to pressure, but seem on the whole less disturbed than any other part of the system. In those cases which survive several days, a cough usually comes on, accompanied with expectoration of a thick bloody matter at first; afterwards the expectoration being mucous or purulent, according to the severity of the disease. The febrile stage may end fatally in a few days, or be protracted for weeks.

Convalescence is tedious, and relapses almost as numerous as the changes of the weather—cold seeming not only to produce new cases, but to aggravate the older ones.

I regret exceedingly that existing prejudices against *post-mortems* have not permitted me to make more extensive examinations pathologically. In a strongly-marked case, which came to a fatal termination three days from the attack, in a boy of 14, I found the following appearances.

Inspectio-cadaveris.—Present, Dr. J. H. White (late Surgeon U. S. A.), Dr. Putnam of Grand Rapids, and myself. Eighteen hours *post-mort.* Body slightly emaciated, flexible, depending portions engorged and dark. Abdominal viscera normal, except at the cardiac orifice of the stomach where there was a slight abrasion of the mucous membrane. The lungs were almost entirely engorged, tubercles in the apex of the right lung but not softened, parenchymatous texture in parts friable, ramifications of the bronchi filled with muco-purulent fluid. The bronchi exhibited marks of inflammation, which extended some distance up the trachea but diminished gradually near the larynx. There were recent adhesions of the adjacent pleuræ upon both sides. The heart was engorged with black blood and tenacious, fibrinous concretions extended up and down from its outlets. The larynx and œsophagus were healthy. The posterior nares and palatal region were a mass of ulceration, involving the orifices of the Eustachian tubes. Examination of the head was not permitted. From conversation with neighboring practitioners, I understand that it does not often exhibit marked lesions.

Diagnosis.—In striking symptoms, this disease resembles what is usually termed congestive fever. But the time of its occurrence, its want of periodicity, its location upon the lungs, its petechiæ, the soreness of the surface, and the erysipelas, it appears to me, draw a marked distinction from that disease. Prof. Condie, in a note to his edition of

Watson, under the head of *typhoid pneumonia*, more nearly describes it. But the epithet typhoid, can with little propriety be given here, for, aside from the great prostration of strength at the onset, the condition, usually understood by that term, is rarely present, except very late in its course. The great degree of rapidity with which the lungs run into disorganization, coupled with the erysipelas almost invariably manifest externally, seem to me to denote this as an erysipelatous inflammation of the pulmonary tissues, producing the usual effect of that destructive disease.

Treatment.—Some practitioners are strongly in favor of venesection at the outset, or even in the course of the disease. In plethoric young subjects, this may be of service very *early in the chill*, to bring on re-action; but such persons are very little liable to have the disease at all. Later in the disease, general bloodletting is inadmissible, and, locally, should be used with extreme caution. Remissions are usual after venesection, but they are *deceptive*, and nearly every case has turned out unfavorably. *External heat* and stimulants should be applied until re-action ensues. Hot air or vapor introduced under the bed clothes—a common mode of which is to surround the patient with parboiled ears of corn. Sometimes stimulating vapors, alcohol, &c. Sinapisms to the extremities and abdomen. Internally, quinine, carb. ammonia, brandy, capsicum, &c. Say, for example—R. Quin. sulph., grs. xxx.; carb. am., grs. xxv.; in a tumbler of strong brandy toddy. A tablespoonful, p. r. n. After re-action comes on, the bowels should be cleared by a gentle cathartic, but active purgatives should be avoided. Castor oil, with the addition of a few drops spts. tereb., has seemed to act the most favorably.

Quinine or bark in substance should at this time be given largely, and indeed should be continued in the febrile stage. I have again and again seen the delirium calmed by this article, the patient becoming quiet, rational, and ultimately convalescent. Two grains every two hours ordinarily is sufficient, but sometimes must be much increased. To falter here, is to sacrifice the patient.

Diaphoretics, especially ipecac, alone or in combination with camphor, have a decidedly beneficial effect in the febrile paroxysm. They should be given with care, as the stomach is prone to become irritable.

Opiates in any form, under my observation, seem to aggravate the delirium and restlessness, unless carried to stupefying doses.

Blisters, as mentioned previously, are so apt to become erysipelatous and leave behind a foul sloughing ulcer, that we have been obliged in great measure to forego their employment.

During the period of convalescence, the patience of the practitioner is sorely tried by the innumerable phases the disease assumes. He has to alternate, combine, re-combine and change. A mild infusion of serpentaria, with camomile and quassia, furnishes a useful draught. But above all, *expectorants* must be assidulously selected. Sanguinaria with carb. am., the "Brown mixture," with bal. copaib., are used to advantage. Many other forms, that we have used with good effect, might be men-

tioned, but must be left to the good sense of the attendant, which, if he is qualified for the station he fills, will not fail to suggest to him the proper means and their application.

If this hasty sketch may prove of any service to the profession, in the management of a fearful disease, my object is accomplished.

Kalamazoo, Mich., March 10, 1848. J. ADAMS ALLEN.

DISCOVERY AND APPLICATION OF THE NEW LIQUID ADHESIVE PLASTER.

[A Communication addressed to John D. Fisher, M.D., of this City, and read before the Boston Society for Medical Improvement, March 27, 1848.]

DEAR SIR,—Some time last summer, when you were at Dedham, you requested me, as you may recollect, to furnish you with some account of a liquid adhesive plaster, which I had been using in surgical operations, with permission for you to read it before the Boston Society for Medical Improvement. Although I had at that time made many experiments with the new adhesive substance, and had formed a very favorable opinion of its properties, still I did not feel willing to express this opinion in a paper to be read before the above learned Society, until I had perfected the manufacture of the substance itself, and employed it in surgical cases sufficiently numerous and various, to determine its true adhesive qualities and real importance to surgical and medical science. Consequently time passed on, and I had really forgotten the request you had made, until I was reminded of it by reading in some Journal, a day or two ago, the announcement that my friend and fellow student, Mr. Samuel L. Bigelow, had written a paper on the subject of the new adhesive material, and that his paper was read before the Society for Medical Improvement by one of its members at its last meeting. This circumstance has induced me to address you this communication, in compliance with the suggestion you made to me last summer, which communication I submit to your disposal. As I shall in this letter speak of the nature and the history of the application of this new adhesive fluid, it is very possible that I may repeat some things that have already been said on the subject by Mr. Bigelow. Should this be the case, my total ignorance of the contents of Mr. B.'s paper must be my apology.

While attending the medical lectures in Boston the winter before the last, Mr. Bigelow showed me a liquid which he was using as a varnish, and informed me, that it was made by dissolving "gun cotton" in sulphuric ether, and that he obtained the directions for making it from Dr. Charles T. Jackson. Having at this time occasion to use some varnish for a purpose to which the common varnishes of the shops were found by experiment not to be applicable, and noticing that this "gun cotton" varnish dried suddenly and became hard, transparent and glossy, it occurred to me that it might answer the purpose I had in view. I therefore requested Mr. Bigelow to furnish me with a

small quantity of the liquid. The quantity he kindly gave me. I made experiments with it as a varnish, but soon discovered that it would not answer the object I had in view. For instead of improving and protecting the gilded surface, as I had hoped it would, it destroyed it, probably by the action of the acid it contained. While making this application of the varnish, my fingers became covered with it, and I noticed that my index and middle fingers were so firmly glued together by the varnish, that it required a considerable degree of force to separate them.

This accidental occurrence at once suggested to me the idea that this fluid, as it suddenly became solid, and seemed to possess an adhesive tenacity unequalled by any known gum, might be made use of as an elegant and effective substitute for the common adhesive plaster, and become an important agent in surgery. Impressed with this idea, I made experiments with it on my own person; first, by spreading the fluid over the surfaces of two of my fingers with a small brush, and allowing it to dry while the fingers were in contact; and second, by moistening straps of cotton cloth and of sheep-skin with the liquid, and applying them on the back of my hand. The fingers were soon found to be glued together somewhat firmly, and the cotton and sheep-skin straps to adhere strongly to the parts on which they were applied. These simple experiments convinced me, that the substance would answer as an adhesive plaster in incised wounds, and I used it as such on a little niece of mine, who had cut her finger, and then on my own hand which had been accidentally wounded. In both of these instances it proved perfectly successful, keeping the incised surfaces together until they healed. The fluid was used in these cases in the following manner:—It was spread by means of a brush over the approximated edges of the wound, and also over the sound skin, on each side, and a thin strap of cotton cloth was pressed upon it, which soon became firmly united to the surface, by the evaporation of the ether, retaining the cut edges immovably together. The wounds in these cases healed by the first intention, and the straps were not removed until perfect and solid union had taken place.

These I believe to be the first surgical applications that were ever made with this new adhesive mixture. Feeling somewhat elated by the success of the experiments, and by the idea that I had made a discovery that might prove of value in operative surgery, I informed Mr. Bigelow, that I had discovered a new and important application for his "gun-cotton varnish," and related the experiments I had made. Some time after this, he told me that he had made use of his varnish, as I had previously done, in surgical operations and with success. The experiments I had made exhausted the small quantity of the varnish that had been given me, and to obtain more I was obliged to attempt the manufacture of it by dissolving the gun-cotton in ether, according to the formula furnished me by Mr. Bigelow. But on trial I found that gun-cotton dissolved in ether would not produce the desired gum. Being in Dedham at the time, I wrote a note to Mr. Bigelow, mentioning the failure of my attempts to re-produce the article, and requested him to

give me particular directions how to make it. In answer to my note, Mr. B. stated that he, like myself, had been unsuccessful in his efforts to make "gun-cotton" yield a gum such as he had before used and given me. I now determined to make experiments with the view of effecting the re-production of the adhesive solution. I accordingly obtained, from the city, a large quantity of acids, and commenced the preparation of the raw cotton, and after many trials and many failures I finally succeeded in preparing a cotton, which would dissolve in ether and form a gum of greater adhesive qualities than that I had been using.

In this connection I may observe that in attempting, at a subsequent period, to make more of the article, I failed, having mislaid my notes specifying the exact proportions of the acids previously used, and the length of time required for them to act upon the raw cotton. Consequently I was compelled to repeat my experiments in order to re-produce "the ethereal solution of prepared cotton." I call the adhesive liquid by this name, rather than by that of solution of gun cotton, for the reason that I have never been able to produce the article from gun cotton. Pure gun cotton will readily dissolve in ether, but the solution possesses no, or only very slight, adhesive properties.

Having now at command any desirable amount of this new adhesive preparation, I made it a business to investigate its usefulness in the healing art, by employing it myself, and engaging others to experiment with it. Dr. Whitney, of Dedham, was furnished with some of the solution soon after I had prepared it; and Dr. Fisher of Boston, Dr. Warren of Waltham, Dr. Clarke of East Cambridge, Dr. Comstock (now residing in Wrentham), and a few others, were supplied with it, some eight or ten months ago. In July or August last, Dr. John C. Warren was informed of its nature and properties by Dr. Fisher, and recently I gave some of it to Dr. J. Mason Warren, who used it in his private practice, and afterwards in the Mass. Gen. Hospital. Previous to the commencement of the last course of medical lectures in Boston, I had used it and seen it used by my instructer, Dr. Whitney, in more than a hundred cases of surgery, some of which were of a serious nature; and in these cases it was most successfully employed, and was found to possess great advantages over the common adhesive plaster of the shops. On a future occasion I intend to draw up a detailed report of the cases in which the liquid adhesive plaster has been used by Dr. Whitney, myself, and some other practitioners who have employed it in their surgical and medical practice. To do this now, would require more time than I have at command. I will, therefore, at present, merely state that the preparation has been employed by Dr. Whitney and myself, with the most gratifying results, in cases of incised wounds; in fractures of the fingers, in which it performed the office of an immovable bandage; in a case of hernia occurring in a child; in cases of deep ulcers, in which it was desired to approximate the surfaces of the sores for the purpose of hastening the process of granulation; in four cases of amputation of fingers, accidentally caused by a circular saw, and other cutting instruments; in cases of burns, attended by loss of substance; in two cases of enlarged

testicle, accompanied by an effusion into the scrotum; in the case of an operation on the face of a young lady, for the cure of a deformity resulting from a severe burn; in the case of a wound in the scalp, made by extirpating a wen from the head. These are some of the surgical cases in which I have witnessed the successful application of the cotton plaster.

The mode in which it was used as a dressing in these cases, varied according to the nature, size and situation of the wound. In slight cuts, a moderately thick coating of the solution laid over the incised parts was, on becoming dry, sufficient to keep the lips of the wound in position till union took place; but in most instances it was employed in conjunction with straps of cotton and sheep-skin, and with raw cotton, forming with them strong, unyielding, adhesive straps, bandages and encasements; and after many experiments, I am convinced that this is the best and most effectual way in which it can be employed as an adhesive agent in surgery. The solution dries rapidly, and in a few seconds, by the evaporation of the ether it contains, it becomes solid and impermeable to water—and a strap moistened with it and glued to any part of the cutaneous surface, adheres to it with a tenacity that is truly surprising.

In proof of this, I will mention the following facts. A strap of sheep-skin, glued to the hand by a thin layer of the solution, nine lines long and one and a half wide, sustained a weight of two pounds. A second strap, attached to the hand by a layer of the substance, nine lines in length and three in width, sustained a weight of three pounds. A third strap, fixed to the hand by a layer of the liquid, twelve lines square, resisted the force of ten pounds without giving way; and a fourth strap of the leather, glued to the hand by a stratum of the solution, measuring one and three fourths of an inch in length and one in width, was not separated from its attachment by the gravity of twenty pounds! These statements may appear incredible; but they are founded on exact and carefully performed experiments, and are true. No other known gum possesses such adhesive power as these experiments show this cotton gum to be endowed with. No adhesive plaster hitherto used in surgery is to be compared to it in this respect. It therefore can be made use of in cases in which the common adhesive plaster would be useless.

The wonderful adhesive properties which my experiments proved it to possess, suggested the thought that it might answer the purpose of sutures in surgery. And an opportunity soon occurred to enable me to decide the fact that it would. I allude to the operation performed by Dr. Whitney, for the removal of a wen from the head. Fearing that an erysipelatous inflammation might arise in the scalp, in case he united the divided parts by sutures, Dr. W. shaved the hair from the raised scalp, and by means of the cotton solution he glued some short and narrow straps of sheep-skin on each flap, a short distance from their edge. These straps were then drawn towards each other until the edges of the wound were brought into close and exact union, and the free ends of the straps were fastened together by sutures. In this case the needle and thread were passed through inanimate leather instead of living flesh,

causing no pain to the patient and no interruption of the process of healing. The wound healed favorably, and without the usual accidents necessarily occasioned by the presence of sutures in, and the operation for their removal from the parts. The happy result of this case convinced me that a means was now discovered which would enable the surgeon to do away with sutures, pins and needles, in most of the cases in which these are at present considered indispensable.

Although unauthorized to do so, I must take the liberty, in this place, to mention the interesting fact that Dr. Comstock, of Wrentham, has recently employed this liquid as a dressing in a case of extensive laceration of the perineum, with a success that he thinks never attended any other mode of management. The dressings remained firmly attached and solid during the process of healing, notwithstanding they were for a time almost constantly covered by urine and mucus, and subject to being displaced by the movements of the patient. This case, I trust, will be communicated to the profession, as it supports the opinion I have advanced that this new adhesive solution will be used as a substitute for sutures and needles.

From the success that attended these two last-mentioned operations, every surgeon and practitioner will readily imagine how effectual and valuable this new dressing must be, in cases where there is great loss of substance—in operations for hare-lip, artificial nose, &c. But I will not attempt to predict the cases in which this new adhesive substance may hereafter be successfully employed. I prefer to speak of it only in connection with cases in which its value has been tested. Future experiments must determine the applications that can be made of it in surgery, and its true value to medical science. As a varnish, it may be useful in the arts—and has been found to afford protection to the fingers and hands while engaged in dissections and autopsic examinations. It was used for such a purpose last summer by Dr. Whitney and myself. I might also speak of the applications that have been made with it in medical practice, as in cases of burns, of eruptive diseases, of sore nipples, &c.; but I must bring this long and hastily-written letter to a close. In it I have given you a true and faithful history of this new adhesive agent, so far as I am connected with or have any knowledge of it.

Had I not heard to-day, while visiting the Hospital, that I had no claim to the credit of having originally applied this new agent to surgery, I should have signed my name to this letter without alluding to the subject. But since my pretensions are disputed, I will remark that the grounds on which I rest my claim are the following:—1st. That I used it in the first instance on my own person—then on the body of another—again upon a wound on my own hand, and that these cases were the first instances, as I believe, in which it had been surgically applied. 2d. I afterwards communicated the fact of my having surgically used it to my friend and fellow student, Samuel L. Bigelow, upon whose veracity and memory I must depend for the corroboration of the statement. 3d. Public announcement was made last summer, in the journals of the day, that it had been applied most successfully in a surgical opera-

tion performed by Dr. S. S. Whitney, of Dedham, upon the face of a female for the cure of a horrible deformity caused by a burn in childhood. 4th. I have used and superintended its use for more than a year, in over a hundred cases of surgery. For proof of this I refer to Dr. Whitney of Dedham, Dr. Fisher of Boston, Dr. Mason of Lowell, and the patients who were the recipients of its benefits. Notwithstanding all this, it will not be inconsistent with human nature should many *post-facto* claims be set up for the credit of first applying a *solution of cotton to surgical uses.* If, however, any person can establish a clearer right than I have to this credit, I shall be content. Yours, &c.

Dedham, March 18, 1848. JNO. P. MAYNARD.

QUERIES RESPECTING THE USE OF ETHER AND CHLOROFORM.

To the Editor of the Boston Medical and Surgical Journal.

DEAR SIR,—I see by your, and other Journals, not excepting the newspapers, in Europe and America, that deaths are coming in from the use of ether and chloroform, and in cases, too, where they have been employed *secundum artem.* This was to have been apprehended from what is known of the respiration of ether in former times. But as ether was long since abandoned by the profession, it was to have been hoped that, after it had lain dormant till its old effects were forgotten, it might be again re-produced as a novelty under better auspices. But it was less my object to have made the foregoing comments, than to inquire of some of your numerous correspondents who advocate the use of chloroform and ether, and consider them the greatest boon that has been vouchsafed to man, what kind of subjects are the appropriate ones for their stupefying effects. I find these agents recommended, indiscriminately, by most of their advocates, in surgical operations, and the extraction of teeth, and by many in the parturient state; but it has become, at the same time, quite common to admonish the inexperienced part of the profession not to employ them at random, nor in cases where they are liable to kill. Now I shall be grateful to any of the experienced in the use of these powerful agents, if they will define what is meant by their "cautious use," and the special circumstances which will enable us to foreknow their deleterious effects where the exhibition of one or the other may be contemplated; and it would be also valuable to others if they who have enjoined the "caution" will state the facts which have led them to this degree of hesitation. And may I not with propriety ask for the reasons why, according to your Journal, "the use of ether, in obstetric practice, is discarded by the two most prominent professors of this department in Philadelphia, Drs. Hodge and Meigs"? Moreover, it is wisely said by the indiscriminating advocates, that the use of ether and chloroform should be limited, even by law, to the hands of physicians; while it appears that nearly all the disastrous cases that have reached the light, have been the immediate offspring of medical science.

It is said, however, that the Queen of England is about to undergo the hazard of chloroform, and perhaps it may be well to await the result, as being likely to decide the destinies of this wonderful agent.

New York, March 17, 1848. Respectfully yours,
MEDICUS, JUNIOR.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON, MARCH 29, 1848.

Collodion.—Surgery is passing through so many revolutions, of late, that its old landmarks are becoming obscure. Late events in France are not more astounding, than the discoveries which are now apparently changing the character of the surgical art. All the horrible part of the business of cutting living human flesh, has in a measure passed away. Patients repose in a quiet slumber, while the great cavities of the body are fearlessly laid open for inspection; limbs are amputated, tumors incised, and, in short, consciousness of pain, even in the severest cases of parturition, no longer exists, under the potent influences of chloroform.

One achievement prepares the way for another—and we are again taken by surprise, with a new preparation, which was alluded to in last week's Journal, and which is to be known under the name of *Collodion*—being a solution of cotton in ether. Of its adhesiveness, not a shadow of doubt need be entertained. Nothing known to us will compare with it in this respect. An entire change in the mode of dressing wounds will necessarily follow. A piece of cotton cloth or kid leather, half an inch square, moistened with the solution, and applied to the skin, will bear up a weight of four pounds, without being dragged off. Yet dressings may be removed with facility by a little practice. In this city, Mr. Burnett, Tremont Row, and Messrs. Maynard & Noyes, Merchants' Row, prepare it in neat two ounce phials—and so on to larger quantities, at a far cheaper rate than it could be manufactured by those who do not make it to sell, and both establishments are of the first respectability in the city. Mr. Bigelow's communication, last week, set forth the utility of the new article, and Mr. Maynard's, in the present number, gives additional information concerning it. Stitching wounds, forcing pins through the cut edges in hair-lip operations, &c., may all be dispensed with in future—and not only in these cases, but in a multitude of others where the common adhesive straps have been used imperfectly, the collodion will doubtless, hereafter, be universally used and prized.

Case of Alleged Death from Chloroform Inhalation.—A pamphlet has been received from Prof. Simpson, of Edinburgh, containing remarks on the case of Hannah Greener, of Newcastle, whose death, according to the coroner's inquest, was caused by the use of chloroform. Prof. S. thinks that death was not owing to this cause, but was brought about by the means used to revive the patient from a fit of syncope which occurred while she

was undergoing a surgical operation after the use of chloroform. These means were the administration of a little brandy, after the occurrence of the fainting, which Prof. S. considers produced asphyxia. He is borne out in this view by the post-mortem appearances of the body of the deceased, which were, he says, similar to those observed in persons who have died of simple asphyxia rapidly induced, and were dissimilar in many respects to those observed in animals intentionally killed by the inhalation of chloroform. The manner in which he thinks asphyxia was produced, was, that the patient being unable to swallow, in her faint and anæsthetic state, the brandy, on her first returning attempt at inspiration, entered the throat, and suffocation instantly took place. The only means which Prof. S. thinks necessary in such cases, is the free admission of fresh air, cold water to the face, or perhaps artificial respiration.

Medical Practitioner's and Student's Library.—Some weeks since, a volume, on the Principles and Practice of Midwifery, by David H. Tucker, M.D, was received, and some notes written for the Journal in regard to it, but they were mislaid. Another volume, the second in a proposed series, on the Elements of General Pathology, by Alfred Stillé, M.D., of Philadelphia, has appeared, and we now give our impressions in relation to both of them. The idea of uniting the interests of practitioners and students in this periodical library, is worthy of encouragement. It is quite certain that the latest and the best of all the scientific world affords, on all the subjects legitimately belonging to the domain of medicine, will be presented in it.

The system of midwifery, in Vol. I., possesses no peculiarity other than this, that is a concentrated treatise. The student has an epitome in it of all that has been written on obstetricy, worth knowing, for the last hundred years;—and yet it by no means destroys the reader's interest in any other author extant. The design is to give the practitioner and student good weight and measure, and to bring the best guides in practice within the reach of moderate means; and both the plan and execution, thus far, are worthy of our commendation. Wood illustrations are rarely so beautifully cut as in this book, and being quite numerous, the text is made exceedingly plain.

Volume II. is by an accomplished gentleman, Dr. Alfred Stillé, who shows himself quite at home with the Elements of General Pathology, the theme to which 483 pages are devoted. In order to meet the various subjects embraced in this vast field of inquiry, Dr. Stillé has fortified himself by studying all the eminent writers of Europe, from the earliest periods of veritable medical history, to modern times, and the treatise before us will remain a perpetual memorial of his industry, patience in research, and ambition to contribute to the medical character of our common country. Dr. Stillé must not feel himself injured by the free criticisms of those who may happen to speak with an air of indifference of this literary effort, by advancing the idea that he has brought nothing new or strangely old to the eye of the medical public. Pathologists, especially those whose opinions command a wide-spread respect, will not only sustain this volume with the whole weight of their influence, but they will be looking with earnest expectation, for something more from Dr. Stillé, who is known to be equal to the greatest efforts that may be undertaken in the line to which he has been educated.

Ticknor & Co., Boston, will furnish copies.

Transactions of the Medical Society of the State of New York.—Part II. of vol. vii., just published, has the following table of contents. An Address, by Dr. T. W. Blatchford; on the Diseases of Saratoga, by Dr. Brisbin; Address before the Columbia Co. Society, by Dr. J. Bates; Observations on Agriculture, in its blessings on Medicine, by Dr. A. Thompson; on Diseases of Otsego County, by Dr. J. S. Sprague, and the Influence of Dress, by Dr. W. D. Purple. In the appendix, the business operations of the Society are fully detailed. Dr. Alexander H. Stevens, of the city of New York, was elected President; Dr. Alex'r H. Thompson, Vice Pres.; Dr. Peter Van Buren, Secretary; and Dr. Peter Van Olinda, Treasurer. Drs. Naudain, Delafield, G. Buck, Beadle, Purple, and R. G. Frary, of Hudson; Wm. Bay, Albany; Thomas C. Brinsmade, Rensselaer; I. H. Wheeler, Athens; D. Clark, St. Lawrence; D. Loomis, New Berlin; A. Willard, Greene; I. M'Call, Utica; P. T. Hard, Oswego; J. S. Sprague, Exeter; M. Strong, Rochester; A. H. Thompson, Aurora; B. Burwell, Buffalo; and E. Barnes, Geneva, were chosen delegates to the National Medical Association, to be holden at Baltimore in May. Since the organization of the New York State Society in 1807, it has had twenty-four presidents.

Chloroform Inhalers.—Another instrument, the invention of Dr. Luther, a dental surgeon, of Boston, has been given to the profession, which for simplicity and economy, in addition to its claims on the score of artistical skill in the manufacture, is destined to win its way into favor. For the compactness and neatness of this instrument, aside from the merit which should be awarded to good workmanship, Dr. L. deserves much praise; and we sincerely hope that the inventor will receive the reward due to his indefatigable efforts and ingenuity.

Report of the Boston Orthopedic Institution for the Year 1847.—Whole number of cases admitted from Jan. 1st, 1847, to Jan. 1st, 1848, 107, viz., 36 cases of club-feet, 32 of which have been cured, and 4 remain under treatment—13 other applications have been made, which we have not been able to admit, for the want of funds, they being unable to defray their own expenses. Forty-three cases of spinal curvatures and other affections of the back; viz., 10 with angular curvature, 4 with excurvation or posterior curvature, 1 with incurvation or anterior curvature, 1 with antero-posterior curvature, 4 with spinal irritation, 1 with antero-lateral curvature; 10 of which have been cured, 5 much improved, 6 improved, 7 not improved, and 15 remain under treatment. Bow-legs, 14 cases; 11 of which have been cured, 1 is under treatment, and 2 not treated. Knock-knees, 2 cases; both under treatment. Anchylosis of knees, 4 cases; 3 cured, 1 under treatment. Anchylosis of ankles, 1 case; much relieved. Contraction of wrist, 2 cases; 1 cured, 1 not treated. Adduction of knees, so as to prevent walking, 2 cases; both cured. Wry-neck, 3 cases; 2 cured, 1 nearly so. Scrofulous disease of the hip, knock-knee and contraction of heel cord, 1 case; now under treatment. JOHN B. BROWN, M.D.
BUCKMINSTER BROWN, M.D.

Public Health in Boston.—Although the population is exceedingly dense, and some streets have twice as many human beings in them as should be

there, Boston enjoys an excellent measure of health. Were it not for the fact that the inhabitants are decidedly an active, out-door people, at all seasons, the bills of mortality would be greatly increased. Air, exercise, and plain food, conduce to health and long life, in city and country.

Massachusetts Medical College.—At a meeting of the President and Fellows of Harvard University, held on the 9th March, 1848, the following candidates, having been approved at the semi-annual examination, and complied with the statutes of the University, received the degree of Doctor in Medicine :—

Alexander Armstrong, dissertation on *Acute Pleurisy;* Joseph Edward Bomer, *Opium;* Oscar Burbank, *Dysentery;* Henry Austin Carrington, *Croup;* Charles Augustine Davis, *Typhoid Fever;* William Alvesta Gaylord, *The Temperaments;* Howland Holmes, *Dysentery;* Charles Howe, *Bloodletting;* Daniel Alley Johnson, *Syphilis;* Frederick Porter Mann, *Puerperal Convulsions;* Henry Graves McIntire, *Poisoning with Arsenic;* Edward Newhall, *The Therapeutic Properties of Cold Water;* James Cunningham Neilson, *Structure of the Human Teeth;* Sumner Augustus Patten, *Phthisis Pulmonalis;* T. Jefferson Worcester Pray, *Inflammation;* Thomas Scott Redman, *Typhoid Fever;* Daniel Dennison Slade, *Typhoid Fever compared with Typhus Fever;* John Sutton, *Phthisis Pulmonalis;* Benjamin Whitwell, *Bilious Remittent Fever.*

OLIVER W. HOLMES,
Dean of the Faculty of Medicine.

Boston, March 14th, 1848.

To CORRESPONDENTS.—The communications of Drs. Jewett and Allen came too late for this week. In last week's Notice to Correspondents, the name Dr. Pereira should have been Dr. Pereira Gardner.

Communications received for this Journal are sometimes so badly written that it costs much trouble to decipher them. This trouble is in most cases an unnecessary one, as a little care on the part of the writer would prevent it. There is always a risk in such cases of printing what the author never intended to write—and this risk is occasionally so great that the only safe course is to reject the communication, unless recourse can be had to the writer. We feel compelled for this reason to lay aside a paper now on hand, bearing the signature of G. T.

We take this opportunity to mention, that when a communication is intended for a leading article in this Journal, it should be received at the office not later than Monday of the week preceding that in which the article is to be published. Advertisements should be handed in, on or before Saturday. Two pages of each number are left open till Monday morning, which is the latest period for the receipt of brief notices, &c.

MARRIED,—Dr. Hiram Corlies, of Union Village, Washington Co., N. Y., to Mrs. A. H. Sampson.

DIED,—In New York, John Stearns, M.D., 77, from disease contracted in probing a tumor on the arm of a patient afflicted with erysipelas, he himself having a slight cut on his thumb.

Report of Deaths in Boston—for the week ending March 25th, 71.—Males, 38—females, 33.—Stillborn, 3. Of consumption, 18—typhus fever, 3—lung fever, 3—scarlet fever, 1—smallpox, 1 infantile, 3—pleurisy, 1—convulsions, 4—intemperance, 1—delirium tremens, 1—drowned, 1—dropsy on the brain, 6—croup, 3—apoplexy, 2—inflammation of the brain. 1—canker, 1—erysipelas, 1—cholera infantum, 1—disease of the heart, 1—debility, 2—dysentery, 2—disease of the spine, 1—accidental, 2—abscess, 1—child-bed, 2—teething, 1—inflammation of the lungs, 1—mortification, 1—hæmorrhage, 1—dropsy, 1—dropsy on the chest, 1—syphilis, 1.

Under 5 years, 24—between 5 and 20 years, 9—between 20 and 40 years, 22—between 40 and 60 years, 8—over 60 years, 8.

Medical Miscellany.—About two years ago, the Legislature appointed a Committee to make inquiry in regard to the idiots in this commonwealth. Dr. Howe, of South Boston, was the Chairman of that Committee, and, after careful investigation, reports that there were from 1200 to 1300 idiots in Massachusetts; and also the astounding fact that from 1100 to 1200 of them were born of drunken parents.—The great desire of the Turkish government to promote the study of medicine, and to raise its professors to a proper station, has already been evidenced by the intelligence from time to time conveyed in the Journals; the same has recently received a fresh illustration. The Sultan addressed the Emperor of Austria by letter, to allow five Turkish medical students to present themselves for the degree of doctor in medicine at the University of Vienna. This request was granted, and the five Turks, of the school of Galata-Serail, produced, and publicly defended their theses in Latin, in the hall of the University of Vienna, when they were admitted to the degree, receiving the doctor's cap at the hands of the dean of the faculty of medicine.—The two physicians who were deputed by the French Academy to study the nature of the typhus fever raging in Ireland, last summer—viz Drs. H Gueneau de Mussy, and Rodier, have been made knights of the Legion of Honor since their return to France. The name of the former gentleman is intimately associated with that of the late talented Dr. Curran, whose friend he was; and it was much owing to his kind and anxious attention on M. de Mussy, who was ill with fever, that poor Curran himself fell a victim. *Mortality of London.*—In the week ending January 22d, the registered deaths in London and its environs amounted to 1401, being 294 above the weekly average of the last five winters. Deaths from zymotic diseases 379, of which 89 were from influenza, 63 from typhus, 46 from measles, and 45 from scarlatina; 152 persons deceased of phthisis, 138 ditto of bronchitis, 137 ditto of pneumonia, and 78 of natural decay. Mean temperature 32° 5′ Fahr.; temperature of dew-point 28° 4′; height of barometer 29·9 inches. *Progress of the Cholera in Russia.*—A letter from St. Petersburgh, of the 14th of December last, states that the cholera had not yet subsided at Moscow. Between the 29th of November and the 6th of December, there occurred in that city 231 cases, and 112 deaths; in all, since the appearance of the scourge, 2,795 cases, and 1,419 deaths. The epidemy, however, appears to be stationary, and to have lost much of its intensity. Thus, in the government of Tver it was confined to the district of Torschok; it completely ceased at Kazan on the 23d, and at Simbirsk on the 24th of November. In the government of Orenburg it still prevailed in the localities where it originally manifested itself In the districts of the governments of Mohilev, Tschernigov, Kiev, and Poltava, which are watered by the Dnieper, the cholera presented a more epidemical character.